

ARIZONA SILVER BELT.

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THE MINING FIELD.

A Brief Portrayal of the Mining Industry of Arizona and the Great Southwest.

MINE AND MILL---SHAFT, CHUTE AND TUNNEL.

PROGRESS BEING MADE BY PROSPECTOR AND PROMOTER—THE MINING INDUSTRY THROUGHOUT THE GLOBE COPPER BELT—A WEEKLY RESUME OF TRANSPERING EVENTS TERSELY TOLD.

MINERAL CREEK MINES.

Chas. F. Lucas was over from the Ray mines last Sunday. He informed us that he secured the contract to do all the work on the company's mines, and will put on a force of 60 men. The Ray company expects to start their mill within a few days. They have been waiting for two gasoline engines which were expected to arrive any day. Mr. Lucas is developing his own mines, the Hot Tamale group, situated four miles northeast of Ray. They are promising claims. Tom Haley has a fine property in the Monitor. Henry Perry, representing the Milwaukee Mining company, is working 10 or 12 men on development work. Their claims lie three miles northeast of the Ray, and are good prospects.

Frank Gill returned from the Ray mines on Tuesday and will remain here with his family for some time. Messrs. Kavanaugh & Gill recently completed their contract with the Ray company, having performed about 700 feet of development, and they turned the mine over to the company in fine shape. Frank thinks the Ray is the biggest mine in this section of Arizona, and he speaks highly of the gentlemen at the head of the company. Kavanaugh & Gill are interested in some 30 claims adjacent to the Ray.

STALLO TURQUOISE MINES.

On Sunday, in company with Dr. T. C. Stallo, County Treasurer A. H. Morehead and John Morehead, we visited the turquoise mines owned by Dr. Stallo and Bernard Oleovich of San Francisco. The mines are situated about 6 miles in a westerly direction from Globe, and comprise three claims, the Stallo, Ida and Ruth. Mr. Morehead, Sr., owning an interest in the latter. The principal development has been done on the Stallo claim, consisting of three shafts; one 24 feet with drifts north west and southwest. Some very good turquoise has been taken from this shaft and seams of turquoise are visible in the shaft and drifts. The other shafts on the Stallo are each 10 feet deep and there is an open cut 24 feet in length, of an average depth of 8 feet, from which turquoise has been taken. There are two shafts on the Ida, each 18x, and 10 feet in depth; the upper shaft showing turquoise scattered over the hanging wall. On the Ruth there is a shaft, 18x, and 10 feet deep. These claims have been surveyed and are all well monumented with stone and posts plainly lettered. The formations are quartz, spar, granite and porphyry interspersed with talc. The claims lie in a basin near the foot of Sleeping Beauty mountain, in a highly mineralized section and the ground sloping to the south at an angle of about 50 degrees, is admirably situated for economical development. A good wagon road runs to within a half mile of the claims. They are surrounded by rich bearing mineral claims; to the south and west the formation is gold-bearing and to the north and east, copper-bearing. Dr. Stallo has shipped about 100 pounds of turquoise, some of it very fine, to his partner in San Francisco.

IMPORTANT STRIKE.

We are informed by President James A. Fleming of the Black Warrior Copper Co., Amalgamated, that an important strike of sulphide ore was made a few days ago on their Gold gulch property, which is situated below the Continental and five and a half miles west of Black Warrior. The ore was struck at the water level, in an old prospect shaft, at a depth of 10 feet. The ledge is 16 feet wide and the ore is black sulphide, and pyrites. The discovery insures the erection of an acid plant at an early date, and pending its construction, leaching will be suspended. The leaching works will be closed down today. The reverberatory furnace at Black Warrior is being torn down and will be rebuilt much larger. A force of 40 men are building a road a mile and a half, to the Gold gulch property.

LOCAL MINING NOTES.

Wm. Stewart has made an important discovery of silver and copper. He brought in 120 pounds of ore, on Tues-

day, which he states assays 1800 ounces to the ton in silver.

P. J. Cole is in today from the Cole & Goodwin mines, and reports that the work of sinking is progressing satisfactorily. The shaft has reached a depth of about 80 feet and is still in ore. The intention is to sink 300 feet.

Richard Welch left for the east on Monday. He will visit Des Moines, Minneapolis and New York, and will probably negotiate the sale of another group of mining claims before returning. The Plain View mines which he recently sold to the American Mines Development Co. of Minneapolis, are in charge of Dr. O. B. Bachman, who has a force of miners employed sinking a shaft on the property.

Miners in cleaning out the shaft on the copper mine owned by Rolling, Rogers & Starr and James Wiley, unearthed a shovel, hammer and drill which had been buried under 60 feet of debris since 1878, when the shaft caved in. The tools were fairly well preserved, the handles of the hammer and shovel being as sound as they were twenty-two years ago. The mine is bonded to Dr. Andrews and other St. Louis parties. Very good ore has been found in the bottom of the shaft.

Territorial and General.

The Star correspondent says that it is understood the Copper Queen smelter disposes of 500 tons of ore daily, which is equivalent to a good train load.

The forty-nine incorporated companies on the Comstock have levied assessments aggregating \$80,000,000, and have paid dividends to the amount of \$125,000,000.

Montana mines have declared \$8,607,000 dividends during five months of 1900, to wit: Amalgamated, \$3,000,000; Anaconda, \$2,400,000; Boston & Montana, \$2,700,000; Florence, \$22,000; Montana Coal & Coke, \$60,000; M. O. P. company, \$80,000; Parrot, \$345,000.

There is probably more possibility of economical and satisfactory working in the gas engine than in any other form of power for the miner. It can produce and furnish power in regions almost inaccessible to any other form of applied energy, says the Mining & Scientific Press.

The report of Eugene Braden, of the Helena assay office, shows the total production of metals in Montana for the year 1899 amounted to \$68,457,307.54, an increase of \$17,138,240.39 over the preceding year, the increase being largely due to the copper output. The gold values were \$4,810,156; silver, \$21,786,834; copper, \$40,941,905, and lead \$909,410.

Mr. Bragg, representing Cincinnati capitalists who recently paid \$9,000 for ranches in Peoples' valley to get the water rights, has let a contract to drive a tunnel 600 feet in to cross cut a group of three claims on Placeritas creek. The tunnel will cut the veins at a depth of 200 feet. The ores carry gold and are said to sample from \$4 to \$60 per ton.—Prescott Courier.

The Treadwell mine in Alaska is still holding its wonderful reputation as a producer. The last monthly report shows a run of 540 stamps for 29 days, crushing 56,699 tons of ore, from which was realized \$93,026, and 1,219 tons of sulphurets of a value of \$52,553, making a total bullion value of \$145,579. The working expenses being about \$39,000 for the month, the net profits amounted to the neat little sum of \$116,579.

Dr. Lennox informs the Star that the Helvetia mines are producing over 110 tons of ore daily, all of a good grade. The big strike in the Isle Royal some days ago on the 180-foot level, continues to grow in largeness. The cross cut shows the ore body to be 24 feet wide, which will give an average of 15 per cent copper. Four feet of this is black oxides of copper, which is very rich. From this body thirty tons are extracted per day. The coke famine continues, which prevents them from blowing in the furnace. Every place is choked up with ore, but the outlook for coke is good.

Never in the history of the camp has the outlook been so flattering for Helvetia being one of the large permanently producing copper camps.

It is always business, and usually necessary to secure a United States patent to a mining location. The possession of such a title argues powerfully for the owner's behalf in the value of the property, says the Western Mining World. It is also almost an axiom that few mines can lay claim to real greatness or value until or unless it has been held up in court by some pirate with a shadowy claim to an interest in the property, and in such likely case a United States patent provides "an ironclad potency" that is of most value when most needed. Then, too, it is a matter of profit to the publisher of a paper nearest the property and usually he has helped to make the property worth patenting by frequent and friendly allusion to it.

Henry Lovin is accounted one of the lucky ones of the county. About a year ago he received nearly \$6,000 for his interest in some placer claims upon which no work had been done; a few months ago he received \$2,500 for a one-fourth interest in some claims he had never seen; last week he grubstaked a man who brought in ore from a 30-inch vein that gave an assay of 42 40 ounces gold and 14.80 ounces silver to the ton. The location is fifteen miles easterly from Fort Mohave. His partner in the mine is a Mexican by the name of Jose Jeris. This man has been prospecting on the river several years past, but was unable to continue the work without assistance and therefore appealed to Mr. Lovin, who, with unfailing good luck, is in a fair way to reap a rich harvest.—Mohave Miner.

A mining man who came in from the Big Bug district yesterday says that the H. B. Clifford people have civil engineers in the field surveying a route for a line of railroad to connect various mining camps in that section of the county. The road will run from Huron, via McCabe and the Rebel Chief, within 2,000 feet of the celebrated Little Jessie and continue to Galena; thence to Eugene gulch, up Eugene gulch, and over the divide on Lynx creek slope; thence to Senator and tributary mines, around Mt. Union, back by the Hamilton and Poland mines, down to the Great Belcher mine; thence up Eugene gulch, which forms the loop. It is also stated that a large concentrating plant is to be erected on the Agua Fria, near the Val Verde smelter. Prescott Prospect.

Writing on May 11, of the copper situation Morrison, Kekewich & Co. of London, said: "The American representatives have again looked on with indifference, perhaps buying a few warrants on balance. Consumers consider they have been badly treated, and are adopting a sulking attitude. Large purchases must be made shortly, but they always refuse to buy on a sagging market. Bears have summoned up some of their old pluck, and the short account has been considerably increased. Some shrewd people think that the Americans have purposely encouraged these bear sales. It is well to remember that the English market is extremely limited, and absolutely under the control of the Americans, who could put up prices whenever it suited them. Probably the whole of the present movement is in connection with shares, and the recovery will occur when least expected."

The Octave gold mine, near Stanton Yavapai county, which six months ago was a prospect, has given rise to a new camp that is doubling its population in short intervals, and in the course of a few weeks will surround a mine constantly feeding a 40-stamp mill, says the Phoenix correspondent of the Los Angeles Herald. The rapid growth of the new camp is one of the marvels of mining in Arizona. The mine has been developed by a wealthy syndicate of men extensively interested in mining in various parts of the country, and large veins of fair grade rock have been traced to great depth, disclosing a quantity of ore sufficient to supply the large mill for years. The plant is modern and capable of handling twice the amount of ore an ordinary 40-stamp plant can receive. Besides the development of the well defined veins, prospectors recently have discovered gold in the porphyry, which, according to the accepted rules of mining, should be barren. The porphyry carries from \$8 to \$12 to the ton.

Mrs. Elizabeth C. Fisher has made final entry of the Little Daisy mine at Jerome, says the Journal-Miner. This, as far as known, is the smallest mine, so far as area is concerned, ever entered, and is apparently the biggest mine, on record, area considered and from the showing of ore now in sight. It contains only seven hundred and thirty-seven thousandths of an acre, the fee charged by the government for the claim being \$5. There is a shaft sunk on the claim and good ore

has been encountered, and there is every indication that the entire claim is within the limits of the mammoth ore body of the great United Verde mine. The shaft is not yet deep enough to demonstrate this to a certainty, but sinking will be continued on it. Should this theory prove correct, even this little claim will afford a competence to Mr. and Mrs. Fisher.

The Great Belcher mine, which is being operated by H. B. Clifford & Co., New York, has started the ball rolling, says the Journal-Miner. This property has caused a great deal of excitement in the Big Bug district on account of its immensely large bodies of ore. A large force of men is being worked day and night and beside having very large bodies of ore it is getting much richer as work progresses. The next property to fall in line in that district seems to be the First Home mine, which is situated about 6,000 feet above the Great Belcher in the same gulch. Ed Block and B. H. Gray of Prescott, have been developing this property for a year and it has always been considered the making of a very valuable mine. They have always had large bodies of good ore, but this new strike has settled the question beyond the shadow of a doubt. They have just encountered a chute of ore at the 180-foot level which is of higher grade than anything found heretofore in the mine. It runs very heavy in lead, with big gold and silver values, with a little copper in connection.

Speaking of the arrest of J. Henry Woods, secretary of the Cobre Grande company, on a charge of perjury, the Nogales Vidette says: This is only one of the many victories which the Greene Consolidated Copper company people have won over the Cobre Grande Copper company people in the great legal battle being fought for the possession of the mammoth copper mines in the Cananea mountains in the state of Sonora, and great interest is being manifested by an ever curious public as to the final outcome of a great game that has been bitterly contested foot by foot over two republics at a cost of possibly a million to play and which means untold millions to the winners. Notwithstanding the fact that reports are being circulated here to the effect that the Cobre Grande Copper company people are preparing to swipe the Greene people off the face of the earth, it is an undeniable fact that at the present writing the W. C. Greene people are about the only "pebbles on the beach" in the vicinity of the big copper camp out in the Arizpe district in the state of Sonora.

O. C. Farrington writes the Engineering & Mining Journal that the exhibit of the United States at the Paris exposition in the departments of mining and metallurgy is acknowledged on all sides to be very creditable, and in some respects far surpasses the similar displays of other countries. Not only has a large and thoroughly representative collection of the ores and minerals of the country been secured and richly and attractively installed, but the exhibits of metallurgical and manufactured products made by various firms and corporations are also very extensive and serve to favorably impress the foreign visitor as to the extent and variety of our resources. The Copper Queen Mining company displays the finest specimens of malachite and azurite which have ever come from the mines. The display attracts much delighted comment. Among specimens of special interest mentioned are those of copper after cuprite from the Old Dominion of Globe, Ariz., which are in the collection exhibited by the Michigan School of Mines.

Commenting upon the hegira to Cape Nome the Mining & Scientific Press says: The exodus to the north that began in 1897, and is now as great as then, is depleting the mining states of many of their best miners, many of whom will not return. The great expenditure consequent upon this movement has already been commented upon; a more serious economic question is who shall take the places of these men, skilled in every department of scientific mining. Their departure is a manifest loss to the mining industry of the state from whence they go. The charm of "a new region" lures them from finer conditions existent in nearly every locality that they leave, and who will fill their places is an important problem. Those who swell the tide of travel to the north do their talking and thinking in English; it may be that those who take their places will be different in some important regards. Of course, the work of development will go on, even if men of lesser intelligence are imported to fill the places of departing American miners. There is enough of turbulent element now in the mines of this west half of America, and it were not well to have the number of those whose education and instincts are not in harmony with our institutions suddenly increased.

ARIZONA MINERAL.

Mountains Seamed With Gold, Silver, Copper and Other Valuable Metals.

HER MINES ARE WEALTH PRODUCERS.

SOME OF HER FAMOUS MINES AND RICH DISTRICTS—THEY HAVE YIELDED MILLIONS AND YET THE MINING INDUSTRY OF ARIZONA IS ONLY IN ITS INFANCY.

No portion of the western continent is more prolific in concealed wonders of nature in the mineral line than Arizona; her hills are seamed with the richest gold and silver ore; copper is found in remarkable deposits, from the Grand Canyon of the Colorado on the north to the international line on the south; not a mountain range is known where the reverberating sound of the pick and drill is not heard. The prospector's footsteps have traversed the vast mesa lands between the Hascayampa and the Colorado river, rich auriferous ground has been encountered throughout that entire region.

The pine-clad hills of the Sierras Ancha have exposed some of the finest specimens of gold and silver of any portion of this vast area. The coal fields of the north, extending from Gallup, New Mexico, into this territory, south and westward from St. John are untouched so far as production is concerned; the magnificent onyx of Yavapai and the same stone on the upper Cave creek in this county are unsurpassed in their texture and color. Black onyx on the Grand canyon and asbestos have been discovered. That her mines are wealth producers and not pockets from which small quantities of rich mineral is extracted and barrenness follows, is proven by the old Vulture mine which as a gold producer has made more fortunes than the entire sum expended in prospecting in Arizona would amount to. For over ten years one hundred stamps were running day and night crushing over three hundred tons every twenty-four hours. The Silver King in Pinal county sent its rich surface ores to San Francisco, freighted by teams to Yuma and then by water when the freight rates were over fifty cents per pound. The Grand Central and other silver mines of Tombstone have sent out their millions to the world's supply of precious metals. The Clifton copper mines shipped by ox teams its surface ores to New Mexico and still left a profit to its owners. The old Mowry mine of Harshaw was worked in the days of civil strife for its lead, which was carried from there to fill the demand in the army of the southern confederacy. All along the southern tier of counties in this territory are found traces of smelters erected by the Jesuit fathers who first hoisted the torch of civilization in this land. And yet the half has not been told of our boundless wealth in minerals.—Ex.

The Engineering & Mining Journal of May 19 published an interesting article on the Ray Copper Mines, Limited, written by Mr. Alexander Hill, from which we make the following excerpt: About 5 1/2 miles up Mineral creek from Kelvin a broad belt of quartz porphyry crosses the creek, continuing in an easterly direction toward Globe and in a westerly direction toward the once famous Silver King. This belt varies in width from 500 to 2,000 feet and is easily distinguished by the red coloration caused by the red oxide of iron stain. At the point where claims owned by the Ray Copper Mines, Limited, are situated, the valley of Mineral creek forms a sort of a basin having a width of about 2 miles, the hills rising to considerable height on either side. The Ray Copper Mines, Limited, have devoted all their energy to the exploration of the quartz porphyry formation. At the Ray mine, where the principal works are located, a shaft has been sunk to the depth of 344 feet. From this shaft cross cuts approximately at right angles to the general direction of the belt have been run at three levels. The longest of these, which is at the depth of 223 feet below the surface, is over 400 feet in length, and both ends are still in ore. The whole of this cross cut shows copper in the form of narrow films or veins and specks of sulphides disseminated through the mass mostly in the form of glance, but occasionally in that of pyrite. The average of this cross cut from end to end, calculated from samples taken every 5 feet, is 4.25 per cent of copper. The two lower cross cuts have not been driven so far, but they both show ore of the same class and of a somewhat higher percentage in copper. From these

main cross cuts drifts are driven east and west, all of which carry the same class and value of ore. The construction of a railroad to the Southern Pacific railroad or to the Santa Fe railroad at Phoenix is a necessity, and the company is taking steps to this effect. Some such a line would pay well, as there is quite a considerable amount of traffic. As the company anticipates a large output in the near future, the extent and value of the mine justifying such an expectation, it is very wisely doing all it can to carry into effect the railroad scheme.

Two feet of \$150 gold ore has been struck in the lower level of the Ora. Piata mine, Mohave county. There is stoping ground above for eight feet.

A thousand shares of stock in the Quincy or Tamarack copper mines of Michigan, would insure an income of \$6,000 per annum. A like number of shares in the Calumet and Hecla would return about \$33,000 yearly. The Treadwell mine, Alaska, pays about \$1,500 and the Homestead of South Dakota, about \$8,000 on each thousand shares. A thousand shares of stock in a million share company means a respectable income in many mining corporations, says an exchange.

The Calumet and Hecla, according to independent assays recently made, is losing about four-tenths of one per cent of copper in the tailings. By these figures the loss is about eight pounds of copper to the ton of ore stamped, from which sixty-eight pounds of copper is saved in the mills. The copper now being lost is so fine that none of the devices hitherto in use have succeeded in catching it. The value of the copper in the tailings of the Calumet and Hecla for the past year, at this rate, figuring on the present price of copper, would be about one and one-half million dollars. And the mine managers think they have a way to save at least half of this loss.

The Gilbert correspondent of the Prescott Prospect says: The Saginaw Lumber company is running about 40 tons of ore through its mill every 24 hours and is cleaning up good, satisfactory gold bricks. It is the intention of the company to very soon add 50 or 75 stamps to its 10-stamp mill. It will be very easy for the company to keep the additional stamps pounding away as it has a mountain of ore. The work being done at the present time is for the purpose of prospecting the ore body and demonstrating its extent. There is plenty of water on the property for all purposes.

The London Statist says: It would be rash even at this time to venture an opinion as to how long the war may last. But the probability seems to be that it will be impossible to resume gold mining on the Randt during the present year—or, at all events, that the resumption cannot take place very much before Christmas on any considerable scale. When the war is ended it will be necessary to collect native laborers in large numbers; and, apart from that, there must be a very considerable delay in making everything ready for active gold mining. That being so, it is in the highest degree likely that money will remain scarce and dear during the remainder of the year.

Johnson, the prosperous mining camp in the Dragons, three miles from Russellville, has a population of over 300, according to the Prospector. At the Peabody mine 105 Mexican miners are on the pay roll and two carloads of copper ore is shipped to El Paso daily. The Peabody is under the supervision of H. J. Clifford. At the Mammoth mines some 35 or 40 Americans are employed and the property is looking exceedingly well. These mines are being opened by an eastern company and are in charge of Mr. S. S. Campbell. Messrs. Perry, Mitchell and Wein own some promising copper claims which are also doing well. Several groups of mines are being negotiated for under bond and the district is growing in prosperity. The Wolfram claims about Russellville are valuable and attracting much attention.